Canopy and Plantable Space Within NESCO Neighborhood, Indianapolis, Indiana

Steven M. King SLA, Nan Ye SLA, Amanda Kabat SLA
Department of Geography, Indiana University School of Liberal Arts

The purpose of this study is to identify changes and the current disposition of the existing tree canopy and plantable spaces within the Near Eastside Community Organization (NESCO) neighborhood of Indianapolis, Indiana. The maps produced would provide a base layer for an online model that would be used to determine which plantable spaces would be most appropriate for the planting of new trees by the organization; Keep Indianapolis Beautiful, Inc. (KIB).The aerial images used were taken as part of the National Agriculture Imagery Program from June 2012. They are 4 band images with 1 meter resolution. We conducted an unsupervised classification of the image using ERDAS to determine cover type, and converted the classification to a polygon file in order to create a grid fishnet of NESCO in ArcMap. The online model under construction will use social vulnerability, high surface temperature areas and soil type as variables in order to determine the most suitable locations for the planting of trees. KIB plans to use this online model to best mitigate the effects of the urban heat island effect and social vulnerability. The techniques used to develop these base map layers are reproducible and could be used to conduct an analysis of plantable space in any city. For this study we compared the 2012 canopy and plantable space grid maps to 2010 grid maps to identify trends in the spatial makeup of the tree canopy.

Advisor: Daniel Johnson SLA, Department of Geography, Indiana University School of Liberal Arts at Indiana University- Purdue University at Indianapolis